

The program for the conference is described below. Each of the Chairpersons has agreed to attend and several speakers covering topics listed have been invited and accepted.

SESSION 1. UBIQUITIN GENES AND THEIR EXPRESSION

Chairperson: A. Varshavsky, Dept. of Biology, MIT

Topics: Organization of ubiquitin-coding genes in various organisms; properties of genes coding for ubiquitin-transfer and activation; regulation and role of ubiquitin fusion proteins in rRNA and ribosome formation; polyubiquitin processing.

SESSION 2. UBIQUITIN ENZYMOLOGY-ACTIVATION, TRANSFER AND CONJUGATION-PART I

Chairperson: A. Hershko, Dept. of Biochemistry, Haifa

SESSION 3. IBID.-PART II

Chairperson: A. Ciechanover, Dept. of Biochemistry, Haifa

Topics for Session II and III: Properties of enzymes involved in activation, transfer and conjugation of ubiquitin; properties that identify a protein as a target for ubiquitination; mechanisms for removing ubiquitin from conjugates; properties of ubiquitin itself.

SESSION 4. OTHER ROLES FOR UBIQUITIN

Chairperson: M. Schlesinger, Dept. of Microbiology, Washington University Medical School

Topics: Ubiquitin conjugates in chromatin (histones), in muscle (actin), on receptors (PDGF), in ribosomes (fusion proteins), in Alzheimer disease plaques (Tau or other structures), in plant viruses.

SESSION 5. PROTEOLYTIC DEGRADATION IN PROKARYOTES

Chairperson: S. Gottesman, NIH

Topics: Properties of bacterial proteins involved in ATP-dependent proteolysis; rapidly turning-over proteins (heat-shock sigma 32); other bacterial proteolytic degradation systems associated with regulatory roles.

SESSION 6. THE PROTEASOME AND DEGRADATION OF UBIQUITIN-PROTEIN CONJUGATES

Chairperson: A. Goldberg, Harvard Med. School

Topics: The structure and activities of high-mol. wt. proteolytic complexes (proteasome); mechanisms for proteolysis of ubiquitin protein conjugates; ATP-dependent proteases.

SESSION 7. REGULATION OF ENZYME LEVELS BY PROTEIN BREAKDOWN

Chairperson: M. Rechsteiner, Univ. Utah Med. Sch.

Topics: The PEST signal for proteolytic breakdown; degradation of specific proteins and complexes (i.e. ornithine decarboxylase, oncogene p53)

SESSION 8.      PHYSIOLOGICAL FACTORS REGULATING PROTEIN BREAKDOWN  
Chairperson: J. Dice, Tufts University Med. Sch.

Topics: System for uptake of proteins into lysosomes;  
regulation of muscle protein turnover by growth factors; control  
of myofibrillar protein breakdown by hormones and nutrients;  
muscle protein loss during inaction; ATP-dependent proteolysis  
in muscle in normal and disease states.

SESSION 9.      PROTEOLYTIC DEGRADATION IN ORGANELLES  
Chairperson: R. Klausner, NIH

Topics: Breakdown of secreted immunoglobulins; proteolysis and  
processing in mitochondria; protein degradation in chloroplasts.